

Appl. No.: 09/414,004

The lens array 80 may be the mesh grid 23 at potential  $V_1$ , between liner 20 at potential  $V_0$  as shown in Figure 6, or include two grids 23 and 23' at the potentials illustrated in Figure 6(a) or three grids 23, 23', 23'' at the potentials illustrated in Figures 6(b) and 6(c), or any other configuration which contains a grid mesh with an electrostatic field perpendicular to the gridplane.

#### IN THE CLAIMS

Please cancel claim 14 without prejudice or disclaimer to the subject matter contained therein.

Please amend claims 15-17, 19-21, 24, 26, 31, and 34 as follows:

15. The method of claim 17, wherein the lens array is placed in a drift space of the charged particle illumination system component.

16. (Amended) A method of controlling beam emittance, comprising:

placing a lens array in a charged particle illumination system component,

wherein the illumination system component is an electron gun.

17. (Amended) A method of controlling beam emittance, comprising:

Appl. No.: 09/414,004

placing a lens array in a charged particle illumination system component,

wherein the illumination system component is a liner tube, connectable to an electron gun.

19. (Amended) The method of claim 17, wherein the lens array including at least one mesh grid.

20. (Amended) The method of claim 17, wherein the lens array including at least two mesh grids.

21. (Amended) The method of claim 17, wherein the lens array including at least three mesh grids.

24 (Amended) The method of claim 17, wherein the lens array has a transparency between 40-90%.

26. (Amended) An electron beam exposure tool of comprising:  
a charged particle illumination system component including a lens array placed in said charged particle illumination system component,  
wherein said lens array is configured to increase emittance of an electron beam passing through said lens array,

Appl. No.: 09/414,004

wherein said lens array is placed in a drift space of said charged particle illumination system component.

31. (Amended) A charged particle illumination system component, comprising:

a lens array configured to be placed in said charged particle illumination system component,

wherein said lens array is configured to increase emittance of an electron beam which passes through said lens array,

wherein said lens array increases emittance of an electron beam by producing a divergent beam from an incoming electron beam.

34. (Amended) The method of claim 17, further comprising the step of:

directing an electron beam through said lens array to increase emittance of said electron beam.

#### **REMARKS**

Claims 1-13 and 15-40 are pending in the present application. Claim 14 is canceled. Claims 15-17, 19-21, 24, 26, 31, and 34 have been amended. Claims 1, 4, 16, 17, 25, 26, 29, 31, and 35 are independent.